

### **Remarks**

Reconsideration of this application is respectfully requested.

Upon entry of the foregoing amendment, Claims 5 and 7 are pending in the application. Claims 5 and 7 have been amended. These changes do not introduce new matter, and their entry is respectfully requested.

In the Office Action of February 24, 2006, the Examiner set forth a number of grounds for rejection. These grounds are addressed individually and in detail below.

### **Specification**

The rejection alleges that the description of Fig. 14 which recites the sequence identifiers associated with the sequences listed in the figure are not in agreement with the listed sequences. The Applicants respectfully submit that the sequences shown in Fig. 14 match the sequences listed in the sequence identifiers. Amino acid sequences in SEQ ID NOs: 31 to 36 correspond to only the portions of the amino acid sequences of reverse transcriptases shown in Fig. 14. For example, the sequence shown in SEQ ID NO: 32 corresponds to the sequence actually disclosed in Fig. 14, namely the sequence between position 136 and 366 of Mx65 reverse transcriptase. In addition, "position 171 of SEQ ID NO: 32" is Tyr (Y), not Leu, and corresponds to Y at position 306 in the amino acid sequence of Mx65 shown in Fig. 14. Therefore, the Applicants believe that there is no sequence conflict in the Specification.

Also, the Applicants note that the sequence of Sa163 corresponds to SEQ ID NO.: 30, the sequence of Mx162 corresponds to SEQ ID NO.: 31, the sequence of Mx65 corresponds to SEQ ID NO.: 32, the sequence of Ec67 corresponds to SEQ ID NO.: 34, the sequence of Ec86 corresponds to SEQ ID NO.: 34, the sequence of Ec73 corresponds to SEQ ID NO.: 35, and the sequence of Ec107 corresponds to SEQ ID NO.: 36.

The rejection further requests the Applicants to provide SEQ ID NOs for the “consensus” sequence of amino acids listed in Fig. 14. The Applicants have added SEQ ID NO.: 53 for the “consensus” sequence in Fig. 14 and SEQ ID NO.: 54 for the 61 amino acid residues as indicated by the black dots in the consensus sequence.

**Claim rejections under 35 U.S.C. § 112, second paragraph**

Claims 5 and 7 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Applicants have amended Claims 5 and 7. It is believed that these grounds of rejection have been obviated. Withdrawal of the rejection under 35 U.S.C. §112, second paragraph, is respectfully requested.

**Claim rejections under 35 U.S.C. §112, first paragraph**

Claim 7 stands rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the Specification. Specifically, the rejection alleges that “the specification also fails to describe additional representative species of these enzymes by any identifying structural characteristics or properties other than the activities recited in Claims 7, for which no predictability of structure is apparent.” Claim 7 has been amended.

Claim 7, as amended, is directed to bacterial reverse transcriptases having the consensus sequence recited in SEQ ID NO.: 54, which includes the highly conserved YXDD box and residues located in 7 subdomains shown in Fig. 14. Furthermore, the Specification has provided sequences (SEQ ID NOs.: 32 – 38) from seven different bacterial species to demonstrate the subdomain structure and the homology among different bacterial reverse transcriptases. The sequence information, together with the disclosure provided on pages 16 – 23 of the Specification, clearly provides structure characteristics or properties, other than the activities recited in Claim 7, to describe the claimed invention. Accordingly, the Applicants respectfully submit that the

Specification provides distinguishing identifying characteristics sufficient to show that the Applicants were in possession of the claimed invention (see, e.g., *Amgen, Inc. v. Chugai Pharmaceutical*, 927 F.2d 1200, 1206 (Fed. Cir. 1991) (one must define a compound by “whatever characteristics sufficiently distinguish it”)). Withdrawal of this rejection to Claim 7 is respectfully requested.

Claims 5 and 7 further stand rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the Specification and is considered as new matter. Specifically, the rejection alleges that the recitation relating to SEQ ID NO.: 50 in Claim 7 is not supported by the Specification. The Applicants have amended Claim 7 to better define the claimed invention, and the support for amended Claim 7 can be found in Fig. 14. Withdrawal of this rejection to Claims 5 and 7 is respectfully requested.

In view of the foregoing, these grounds of the rejection have been obviated and withdrawal of the rejection under 35 U.S.C. §112, first paragraph, is respectfully requested.

### **Conclusion**

The Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

If any issues remain which the Examiner deems are best resolved through an interview, the Examiner is kindly invited to telephone the Applicants' undersigned counsel at the number below.

Respectfully submitted,



T. Daniel Christenbury  
Registration No. 31,750  
Attorney for Applicants

TDC:lh  
(215) 656-3381